

### ANALYTICAL REPORT

Job Number: 680-78755-1

Job Description: Pavillion Groundwater

For:

US EPA National Risk Mngmnt Research 919 Kerr Research Drive Ada, OK 74820

Attention: Rick Wilkin

Subar Horay

Approved for release Lisa Harvey Project Manager II 7/12/2012 11:43 AM

Lisa Harvey
Project Manager II
lisa.harvey@testamericainc.com
07/12/2012

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; AZ: AZ0741; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN: C-GA-02; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LA000244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

TestAmerica Laboratories, Inc.

TestAmerica Savannah 5102 LaRoche Avenue, Savannah, GA 31404 Tel (912) 354-7858 Fax (912) 352-0165 <a href="https://www.testamericainc.com">www.testamericainc.com</a>



### **Table of Contents**

Cover Title Page	1
Data Summaries	3
Report Narrative	3
Sample Summary	4
Method Summary	5
Method / Analyst Summary	6
Data Qualifiers	7
QC Association Summary	8
Inorganic Sample Data	9
General Chemistry Data	9
Gen Chem Cover Page	10
Gen Chem Sample Data	11
Gen Chem QC Data	12
Gen Chem Blanks	12
Gen Chem LCS/LCSD	13
Gen Chem MDL	14
Gen Chem Analysis Run Log	16
Gen Chem Prep Data	17
Shipping and Receiving Documents	18
Client Chain of Custody	19
Sample Receipt Checklist	20

### **CASE NARRATIVE**

Client: US EPA National Risk Mngmnt Research

**Project: Pavillion Groundwater** 

Report Number: 680-78755-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

#### **RECEIPT**

The samples were received on 04/20/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.4 C.

### METHYLENE BLUE ACTIVE SUBSTANCES

Sample PGDW50-0412 (680-78755-1) was analyzed for Methylene Blue Active Substances in accordance with EPA Method 425.1. The samples were analyzed on 04/21/2012.

No difficulties were encountered during the MBAS surfactants analysis.

All quality control parameters were within the acceptance limits.

### **SAMPLE SUMMARY**

Client: US EPA National Risk Mngmnt Research Job Number: 680-78755-1

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
680-78755-1	PGDW50-0412	Ground Water	04/19/2012 1200	04/20/2012 0930

### **METHOD SUMMARY**

Client: US EPA National Risk Mngmnt Research

ranaration Mathad

Job Number: 680-78755-1

Description	Lab Location	Method	Preparation Method
Matrix: Ground Water			
Methylene Blue Active Substances (MBAS)	TAL SAV	EPA 425.1	

### Lab References:

TAL SAV = TestAmerica Savannah

### Method References:

EPA = US Environmental Protection Agency

### METHOD / ANALYST SUMMARY

Client: US EPA National Risk Mngmnt Research Job Number: 680-78755-1

Method	Analyst	Analyst ID
EPA 425.1	Brantley, Willie	WB

### DATA REPORTING QUALIFIERS

Client: US EPA National Risk Mngmnt Research Job Number: 680-78755-1

Lab Section	Qualifier	Description	
General Chemistry			
	U	Indicates the analyte was analyzed for but not detected	

### **Quality Control Results**

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78755-1

### **QC Association Summary**

		Report			
Lab Sample ID	Client Sample ID	Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:680-2349	67				
LCS 680-234967/4	Lab Control Sample	T	Water	425.1	
MB 680-234967/3	Method Blank	Т	Water	425.1	
680-78755-1	PGDW50-0412	Т	Water	425.1	

### Report Basis

T = Total

## GENERAL CHEMISTRY

### COVER PAGE GENERAL CHEMI STRY

Lab Name: SDG No.:	Test Ameri ca Savannah	Job Number: 680-78755-1
	Pavillion Groundwater	
	Client Sample ID PGDW50-0412	Lab Sample ID 680-78755-1

Comment s:

### 1B-I N I NORGANI C ANALYSI S DATA SHEET GENERAL CHEMI STRY

Client Sample ID: PGDW50-0412	Lab Sample ID: 680-78755-1
Lab Name: Test America Savannah	Job No.: 680-78755-1
SDG ID.:	
Matrix: Ground Water	Date Sampled: 04/19/2012 12:00
Reporting Basis: WET	Dat e Recei ved: 04/20/2012 09:30

CAS No.	Anal yt e	Resul t	RL	MDL	Uni t s	С	Q	DIL	Met hod
	Methylene Blue Active Substances	0.20	0.20	0. 12	mg/I LAS MW 340	U		1	425. 1

### 3-I N METHOD BLANK GENERAL CHEMI STRY

Lab Name: Test Ameri ca Savannah Job No.: 680-78755-1

SDG No.:

Met hod	Lab Sample ID	Anal yt e	Resul t	Qual	Uni t s	RL	Di I
Bat ch ID:	234967 Date:	04/ 21/ 2012 04: 47					
425. 1	MB 680-234967/3	Methylene Blue Active Substances	0. 20	U	mg/I LAS MW 340	0. 20	1

### 7A-I N LAB CONTROL SAMPLE GENERAL CHEMI STRY

Lab Name	: Test America Savanna	h	Job No	.:	680-78755-	-1				
SDG No.:										
Mat ri x:	Wat er		-							
Met hod	Lab Sample ID Analyte	Re	sult C Unit		Spi ke Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Bat ch	ID: 234967 Dat e: 04/21	/ 2012 04: 47		1.08	Source: M	IDAS SDI	KE 00533			
425. 1	LCS Met hyl ene 680–234967/4 Substances		).489 mg/l	LAS		98	70-130			

 $\hbox{\it Calculations are performed before rounding to avoid round-off errors in calculated results. } \\$ 

FORM VIIA-IN

### 9-I N DETECTI ON LI MI TS GENERAL CHEMI STRY

Lab Name	e: Test Ameri ca Savannah	Job Number: 680-78755-1
SDG Numb	per:	
Mat ri x:	Wat er	Instrument ID: NOEQUIP
Met hod:	425. 1	MDL Dat e: 04/ 28/ 2010 09: 47

Anal yt e	Wavel engt h/	RL	MDL
	Mass	(mg/I LAS	(mg/I LAS MW
Met hyl ene Bl ue Act i ve Subst ances		0. 2	0. 12

### 9-I N CALI BRATI ON BLANK DETECTI ON LI MI TS GENERAL CHEMI STRY

Lab Name	e: Test Ameri ca Savannah	Job Number: 680-78755-1
SDG Numl	per:	
Mat ri x:	Wat er	Instrument ID: NOEQUIP
Met hod:	425. 1	XMDL Dat e: 06/02/2009 00:00

Anal yt e	Wavel engt h/	XRL	XMDL
	Mass	(mg/I LAS	(mg/I LAS MW
Met hyl ene Bl ue Act i ve Subst ances		0. 2	0. 1

### 13-I N ANALYSI S RUN LOG GENERAL CHEMI STRY

Lab Name: Test Ameri ca Savannah

SDG No.:

I nst rument | D: NOEQUI P

Start Date: 04/21/2012 04:47

End Date: 04/21/2012 04:47

				Anal yt es													
Lab Sampl e I D	D / F	T y p	Ti me	M B A S													
CCV 680-234967/1			04: 47											]			
ZZZZZZ			04: 47														
MB 680-234967/3	1	T	04: 47	X					+								
LCS 680-234967/4	1	Т	04: 47	X					+								
ZZZZZZ			04: 47						+								
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
680-78755-1	1	Т	04: 47	X													
CCV 680-234967/12	ŀ		04: 47				1	1									
CCB 680-234967/13			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
ZZZZZZ			04: 47														
CCV 680-234967/20			04: 47														
CCB 680-234967/21			04: 47														

Prep Types

T = Total/NA

### GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Tes	st Ameri ca Savannah	Job No.: 680-78755-1		
SDG No.:				
Batch Number:	234967	Bat ch St art Dat e: 04/21/12 04:47	Bat ch Anal yst:	Brantley, Willie
Bat ch Met hod:	425. 1	Bat ch End Dat e: 04/21/12 06:39		

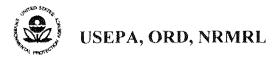
Lab Sample ID	Client Sample ID	Method Chain	Basi s	Initial Amount	Fi nal Amount	MBAS SPIKE 00533		
MB 680-234967/3		425. 1		100 mL	100 mL			
LCS 680-234967/4		425. 1		100 mL	100 mL	1 mL		
680-78755-A-1	PGDW50-0412	425. 1	T	100 mL	100 mL			

Batch Notes					
Bat ch Comment	5540				
Chloroform Lot #	2549338				
Dat e Anal yzed	04. 21. 12				
Sulfuric Acid Lot Number	26220924				
Indicator Reagent ID Number	2621012				
NaOH Lot #	2486440				
Phenol pht hal ei n Lot #	0166–16				
Wash Solution Lot #	2621014				

Basi s		Basi s	Description
Т	Tot al / NA		

425. 1 Page 1 of 1

# Shi ppi ng and Recei vi ng Documents



Location: Pavillian, WY

Shipping Method: Fed EX

Sample Number

PODW50-0412

Received By:

Received By:

Comments:

Comments:

Project: Pavillion Groundwater, Task 23993

Project Manager/Phone: Rick Wilkin / 580-436-8874

Shipping Tracking Number: 8006 5696 5600

Date/Time

Collected

4/19/12 12:00 P Dlastic

Container

Type

Signature:

Signature:

Sample

Matrix/Description

Groundwater

Relinquished By: Printed name: Kick Wilkin

Relinquished By: Printed name:

Printed name: Keatou Conne

Printed name:

### Sample Analysis Request and

Number of Containers

NONE

Signature:

Chain of Custody (COC) Record

Page of Lab Name: Test America Savannah Address: 5102 La Roche Aucnue Savannah, GA 31404 Contact Name/Phone: Bernard Kirkland/912-354-7858 Shipping Date: Total Number of Shipping Containers: **Requested Parameters Special Instructions** 5  $\varphi$ PR-ORD-12-01120 680-78755 0.400 Affiliation: USEPA Date: 4/19/201 Time: 3:0091 Morsik Corner Affiliation: TH SV Affiliation: Signature:

Affiliation:

Time:

Time:

Date:

Date:

### Login Sample Receipt Checklist

Client: US EPA National Risk Mngmnt Research

Job Number: 680-78755-1

Login Number: 78755 List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	